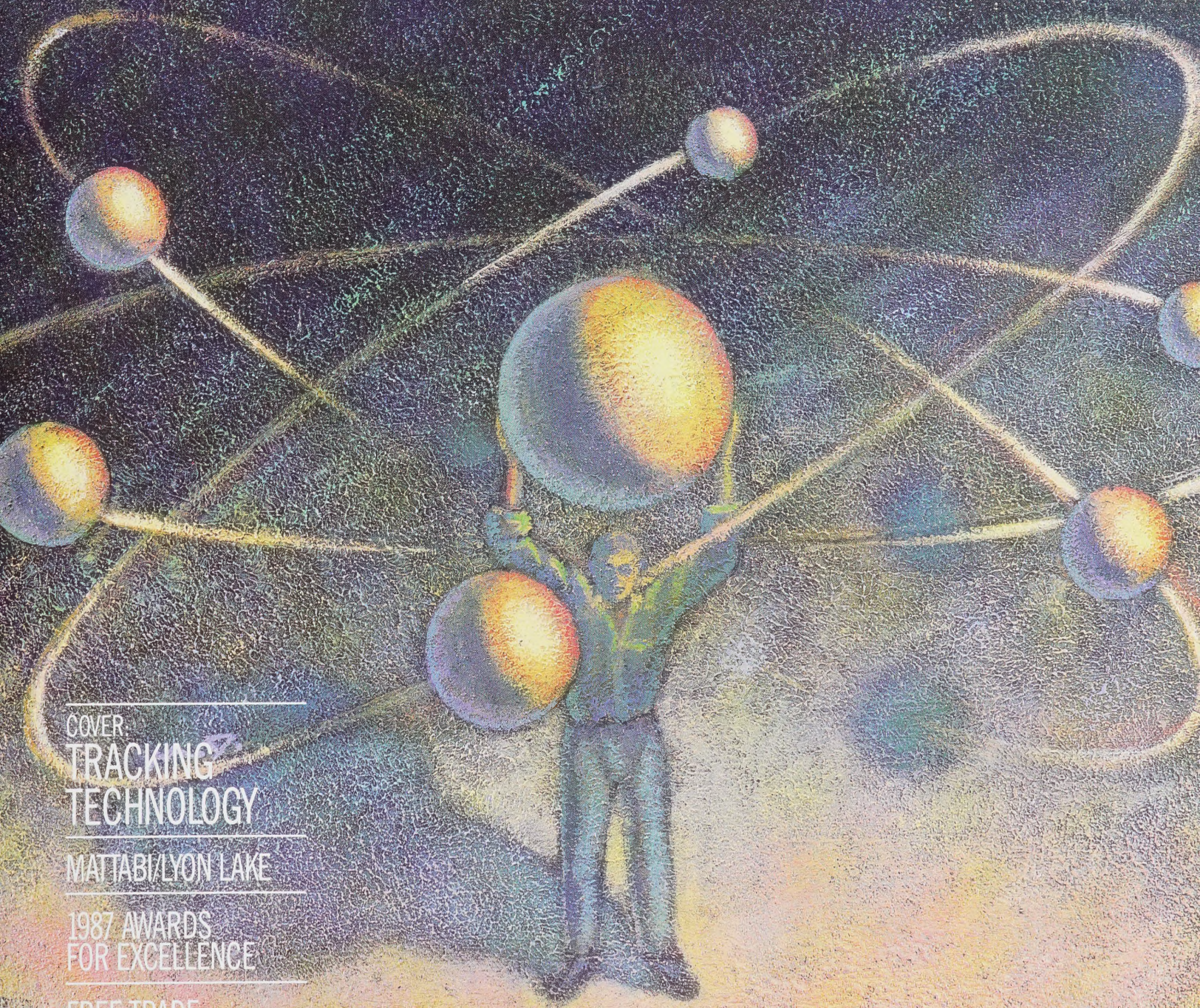


PANORAMA

December/January

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COVER
TRACKING
TECHNOLOGY

MATTABI/LYON LAKE

1987 AWARDS
FOR EXCELLENCE

FREE TRADE

A graduate of MIT (the Massachusetts Institute of Technology), with a Doctorate of Metallurgy, Tedmon believes the school's major asset is giving its students a broad and deep understanding of the basics in sciences. "You really come out drilled with the basics of science and technology," he says. "It's a foundation which enables you to go into a lot of different areas." This is exemplified by the fact Tedmon's thesis was in an area of low temperature physics, although his degree was in metallurgy. And after graduating, he began working in the field of high-temperature chemistry "and never had any doubts in my ability to do that. It was just another physical science problem," he explains. "Atoms are atoms whether they're hot or cold."

Tedmon joined General Electric after he received his doctorate. Working with many different aspects of this corporation, managing technology in both the research and business side, gave him the broad experience qualifying him for his job at Noranda as Senior Vice-President -Technology.

Although at first leery about joining Noranda, because of its 1985 financial position, Tedmon was impressed by the people in the company. He was also challenged by the job. "It was a new position and in an environment that was quite new to me."

Insuring that Noranda invests in technology and utilizes technology for maximum leverage will be a major challenge to Tedmon. "I think my job is to be a leader and a communicator, rather than a salesman. Technical people do a good job of selling the technology. What is needed is an executive spokesman; somebody who can have access to all parts of the company easily, comfortably. If there's any selling to be done, it's selling at the executive level. But technology can sell itself. My job is to make sure that the sales, the marketing, is done effectively."

The Noranda Research Centre is the flagship for Tedmon. "One of the appealing features to me about Noranda is that they preserved the Research Centre during the tough times," states Tedmon. But he also sees the Noranda Research Centre's role expanding for the Noranda Group--increasing the transfer of technology throughout the four business divisions.

Getting the necessary resources to

TRACKING TECHNOLOGY

Technical people aren't always thought of as being good communicators. Craig Tedmon is certainly proof that communication and technology can go hand-in-hand. He joined the Noranda Group as Senior Vice-President of Technology on March 1, 1987. "I've spent a large fraction of my time travelling across Canada and elsewhere," Tedmon states. "Part of the job is getting to know where the islands of technical excellence are in the company--and there's a lot of them."

AND FINDING

these projects is high on Tedmon's priorities. "We invest tens of millions of dollars in exploration, whether we're exploring for minerals or gas and oil. We expect in the course of the exploration we're going to end up with some dry holes and some drillings that aren't going to yield any mineral benefit. We also hope once in a while to come up with a Hemlo. And in a lot of ways that's what technology is about--recognizing that not every hole hits a mine or a well." And while the success ratio for projects at the Centre has been high, "if I have a criticism of technology in Noranda toward the Research Centre, it's the fact there have been very few dry holes. The research investment has been made very conservatively. Putting it another way, you don't hit home runs without striking out occasionally."

But Tedmon's involvement with Noranda's technologies is not limited to the Noranda Research Centre. "I look at technology broadly across the total needs of the corporation, which includes a lot of areas in which the Research Centre is not yet involved," states Tedmon.

Tedmon's academic and work-related experience was what made him so appealing to Noranda for this position. His background in metallurgy makes him comfortable with mining and mineral technology. His former employer, General Electric (GE), is in the manufac-

turing business, giving Tedmon an edge. While at GE, he had, at one time, managed their research and development programs in energy-related fields, and therefore has some knowledge about the the market dynamics of the oil and gas business, as well as its technology. Although he has had no direct experience in forest product technology, he has already begun working with Noranda Forest Inc. on a technology strategy.

Why a driving force is needed in technology is aptly summed up by Tedmon: "There's no question that we can do a lot of technology transfer within Noranda, through the Noranda Group of companies, that we haven't done. And the reasons it hasn't been done are all the ordinary, mundane reasons: everybody's too busy with the day-to-day demands of their jobs."

While the pay-off for investments in technology have proven themselves beneficial time after time, Tedmon feels that the company should be more aggressive in bringing technological projects to fruition faster. "Ideally a project will be limited by the ability of the people to develop knowledge," he explains. "You should be limited by the pace of which nature unfolds her secrets. You should not, ideally, be limited by budget."

"Now, in the real world, you're always limited by a budget, but the cost of doing

research is small when compared to the pay-off of the technology. Our scientists need to understand the time-value of technology . . . the financial benefits of getting technology down faster, of reaching the factory, or market, sooner!"

Tedmon has been busy since he's been here, finding out what technologies are in place and how they can be better utilized throughout the group. "For example, we're doing work at the Research Centre

on geophysical modelling of underground excavations and mines and the geomechanics of rock structures, which has got to be of interest to the guys at Canadian Hunter, on the stability of well bores," says Tedmon.

He is actively involved in making analyses of business ventures for the Noranda Group; deciding whether the business technology is sound and if a market exists for the business. One that

Tedmon has just completed is a detailed analysis of a venture with Hubnet and Canada Wire and Cable. "Hubnet is a business venture that's been developed for Canstar (a Canada Wire and Cable subsidiary). It is a very high technology activity aimed at tying together computers, particularly super computers with very high speed, high band width communication links, using optical fibre technology and a few other things, microelectronics and so on."

Not being an expert in all fields, he does have an edge by knowing many people in the world community of science and technology. As with the Hubnet venture, Tedmon was able to bring in "one of the world experts in that particular area of technology."

Within the Noranda Group, Tedmon has been actively seeking out the islands of technical expertise. "Artificial intelligence technology is one of the fastest moving areas of science and technology today . . . poorly understood by nearly everyone, but whose impact in the practical world is being felt today and will be felt enormously over the next few years," states Tedmon. "It's an area where we have very little expertise. In fact, the island we have in Noranda through this whole area probably resides at Brenda. They're doing excellent work out there in the application of systems to controls technology. Part of my job is becoming aware of what they're doing, encouraging it, supporting it, fostering it, and getting it disseminated through the rest of the company without getting in their way."

Tedmon is also working with Noranda Forest Inc. creating a technological strategy "which would include investing more money on technology in the right areas," states Tedmon. "I expect in a year from now, we'll be investing in forest business technology that we're not doing today. Part of the challenge is to figure out where we should do that, how we should do that for Noranda's best interest."

Perhaps Tedmon's greatest strengths are his ability to listen and the enthusiasm he shows for projects. Naturally, his job will be evolving over the course of the next year, now that he is getting more familiar with the Noranda Group operations. But positive changes are afoot.

SEARCHING ISLANDS OF TECHNOLOGICAL EXPERTISE



working



makes
the
difference

MATTABI / LYON LAKE

With depressed metal prices in the early 1980's both Mattabi and Lyon Lake Mines were losing money. Morale was rapidly decreasing because of the limited economic mineral reserve at both properties. Something had to be done. Downsizing of the workforce would not be enough, costs would also have to be reduced while still maintaining production.

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MATTABI / LYON LAKE



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his is a view of the Mattabi open pit. With its ore body depleted, operations at Mattabi will end during 1988.

Frank Grebenc, former Mine Manager of Mattabi Mine (currently Mine Manager at the Geco Division), says he and his staff rethought how to organize work and structure the Company so that the people doing the work could be far more self-directing. "Sometimes we as management don't listen to our employees. Generally people who are doing a job know the best way to do it and those who don't should be trained. The whole point is to try and let people do the best they can as long as they know what the objective is." The new thinking called for better communication and more participation.

Manfred Lengwenus, Mine Superintendent, says: "We asked ourselves: If miners are skilled, why do they need supervision? They don't! What they need is co-ordination and facilitation." Based on that view, Mattabi's organizational complexity has been reduced. Two layers of management have been eliminated and practices have changed.

In the past, at shift change, the miners lined up individually at the wicket to get instructions. Now, crew meetings are



Employees at Mattabi and Lyon Lake are working as a team more than ever before. Pictured here is Jim Cannon, Planning Coordinator.

held each morning and everyone takes part -- from the shift boss to the miner. They all discuss what is to be done that particular day and what is needed to get it done in the most safe and efficient way possible. Mattabi was the first of the two mines to involve people this way. The same system has been in place at Lyon

Lake for the past year and has proven, at both sites, that communication is an important part of work.

"I started here as a miner in 1982, before the big change," states Dave Villeneuve, General Mine Foreman. "It was a good time for me to start because I have been involved in the change all along. What I enjoy about working here is the fact that even as a miner, they ask for your opinion. I've worked at other mines under the old system where they never asked the miners anything -- they said, 'that's how you do it' and there was no changing it. Today we don't have that here. For instance, the engineers make a layout of a drift and before it is issued they talk to the miners who have to excavate that drift. The miners will sometimes get changes effected on this layout so it will make it easier for them to do." Working together gives employees a special sense of accomplishment, and the opportunity to speak out and improve things.

At Mattabi/Lyon Lake Mines, things have been changing from the "negative" to the "positive" with the participative

MATTABI / LYON LAKE



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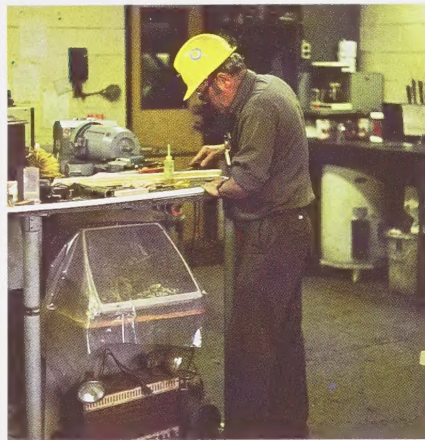
he underground crew, led by P. Futos, pictured at one of their crew meetings at Mattabi held each morning. Everyone takes part—from the shift boss to the miner.

management philosophy. What is remarkable is that these changes have been taking place with the knowledge that the underground operation at the Mattabi Mine will stop production in approximately mid-1988.

At Mattabi, production is up from 153 feet per manshift for a long hole driller in 1983 to 295 feet per manshift today. Development advance has increased from 2.3 feet per manshift in 1983 to 4.5 feet per manshift in 1987. Similar trends are also being established at the Lyon Lake Mine.

Safety has improved. Mattabi and Lyon Lake have consistently maintained injury frequencies well below the average for Ontario mining through consistent improvements and innovations to its accident prevention program.

A Union/Management Health and Safety committee structure (introduced by legislation some eight years ago) has since gone through several constructive modifications to evolve into what is now an innovative (and possibly unique) network that without a doubt makes significant contributions to the steadily improv-



At the mill, employees are doing a better job, with fewer people, at a lower cost and enjoying it more.

J. Brannan works in the instrument shop in the Mill.

ing safety performance. The addition of a full-time health and safety representative two years ago has rounded out an effective system that places emphasis on the internal responsibility system and worker participation. A system to streamline efforts towards a more participative management in all areas, including health

and safety management, has been designed and partly implemented.

Jan Nasset, Mill Superintendent, says his department "is doing a better job, with fewer people at a lower cost and enjoying it more." Manpower has been reduced by 15% over three years while assuming added responsibilities in maintenance and surface operations. Milling costs have decreased by 16% since 1985 and the metallurgical performance is the best ever with record zinc recovery in the 3rd quarter of 1987.

Through total employee involvement in department operation and systems design, the Purchasing/Warehouse employees have been able to increase the quality and quantity of services provided while reducing their staff by half over a five year period.

In late 1986, Purchasing developed a system to identify excess inventory (obsolete and slow moving) and with the cooperation of the operating departments, over 8000 items were reviewed. Stocking levels for valid inventory were lowered, plus over 5000 items declared excess. To date, inventory has been



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t Matabi/Lyon Lake Mines, things have been changing from the "negative" to the "positive" with the participative management philosophy. Seen here is the Lyon Lake headframe.

reduced from \$3.5 million to \$2.7 million with \$2.2 million being the goal in 6 months.

The Data Processing and Accounting department has also experienced many changes over the past few years. The team spirit took root back in 1983 when the department reviewed its shortcomings and set about addressing the most critical areas. As a result, many job functions were combined and the department significantly increased its performance. To quote Bob Rodrigue, Project Accountant, "You would be hard pressed to find a more enjoyable work environment."

According to Manfred Lengwenus, Mine Superintendent, "People are learning more, and can keep their learning curve up. They now have an incentive for their own well-being. The trend here is to have the person most qualified making the decisions. No longer does management just make the decision; rather, they go to the miner and discuss the situation with him, and let him make the decision."

Employees at Matabi and Lyon Lake are working as a team more than ever before. Supervisors act as facilitators or



Milling costs have decreased by 16% since 1985, and the metallurgical performance is the best ever with record zinc recovery in the 3rd quarter of 1987.

coordinators. All employees are thinking like supervisors no matter their titles. When this happens, you have twenty or thirty minds working--and working together. Things flow better: production goes up and costs come down. "One is learning from another, and everybody comes up with ideas," says Lengwenus.

"What we come up with today may not be true tomorrow. So we will enhance it again." They've discovered that this training opportunity turns hum-drum employee attitudes into innovative thinking and more productive people. A mature, self-assured feeling develops when a person broadens his scope.

Cost savings is another aspect of this innovative management style, and in April 1986, the Cost Management Incentive Plan was introduced. Since Matabi/Lyon Lake employees do not have any control over metal prices, the only way to improve the profit picture was to get more metal out of the mine and cut the cost of mining it. The incentive package program was designed by an employee committee to help all employees share in the success of the Company by reducing costs and achieving production goals. It was decided that both operations, even though they are separately owned (Matabi-- 60% Noranda, 40% Abitibi; Lyon Lake -- 100% Noranda), work so closely together they would be treated as one package. Mike Patterson, Senior Mine Geologist, and a



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Winik, R. Kennedy and M. Dellow, all employed at the Mill, attend a meeting to keep abreast of the day's activities.

member of the employee committee, states: "We designed a plan in which the operation was taken as a whole. Every year there is a budget presented to Toronto office that shows our mining plan, the number of tons we expect to get, the grade of those tons and the recovery the mill will get along with our projected costs. On that basis, we have designed a plan where everybody shares equally on the difference that we make from projected costs and the amount of metal produced. It is paid out on a quarterly basis, 70% the first two quarters, 80% and then 100% at the end of the year. Everybody is paid equally with no respect as to income level. We determined the average salary for all employees across the board and it was decided that if we met all of our production targets, produced all the metal we said we would, at the cost that was budgeted, there would be a 6% payout on the average wage. Last year it worked out to represent about \$1,300 to each employee."

As of September 15th, Mattabi/Lyon Lake has a new Mine Manager, John Keyes, who came from Brenda Mines in

British Columbia. Keyes was at Mattabi 10 years ago and states, "I cannot get over the change, the willingness and the cooperation of everyone working together. Frank Grebenc along with his superintendents spearheaded some major management changes. People walk around with a smile on their face and they tell you they are happy to come to work."

As for Mattabi closing in 1988, Keyes adds, "I have attended two Industrial Adjustment Committee meetings: one with the Municipality of Ignace, and then we have an Industrial Adjustment Committee with the employees of the mine. (The closure) is not something to look forward to, but we recognize it is a difficult situation and it has to be addressed now to alleviate problems in the future. We are working with the employees, with the community and with various government agencies."

Exploration continues in the Mattabi and Lyon Lake area. In the last three months at Lyon Lake, geologists have revised their ideas about the ore body occurrences and its structure. Hope still remains of discovering additional ore bodies.

Mattabi/Lyon Lake are trying to look after their employees. For some it will mean moving on, and Mattabi/Lyon Lake will try to help them relocate as best they can. There is much more to be done and Mattabi/Lyon Lake is trying to do it. As Grebenc says: "When you say your people are your greatest resource -- you have to mean it, otherwise it's just so many words. People are not dumb. It's not what you say, but what you do that counts. There is a good bunch of people there."

When the late John R. Bradfield was the President and Chairman of Noranda, he worked diligently to further the educational avenues available for young people in their pursuit of a degree.

To recognize his "behind the scenes" efforts, the Noranda Group initiated the Bradfield Fellowship.

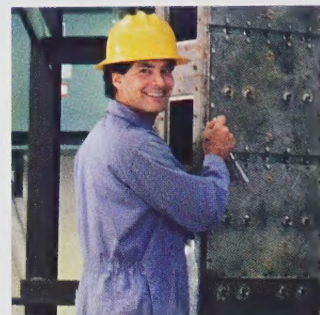
Recently, the Bradfield Graduate Fellowship Program and the Noranda Graduate Research Fellowship have been merged and will now be called The Noranda/Bradfield Graduate Fellowship Program.

The Noranda/Bradfield Graduate Fellowships are given to promote and encourage research collaboration between Canadian universities and companies in or associated with the Noranda Group. The Fellowships are available to students who are Canadian citizens (or have landed immigrant status in Canada) doing research in the natural and applied sciences, mathematics, economics, business and commerce.

The key requirement of the Fellowship Program is that the research undertaken by the student be of direct interest to one or more companies in or associated with the Noranda Group.

Benefits are reaped by both parties: to the students for research funding and use of facilities that might not otherwise be available, and to the sponsoring Noranda Group company, for the research results when the project is completed.

What follows are submissions from two Noranda/Bradfield recipients who have been assisted in their studies by the Fellowship funds.



Frank Laytner's doctoral research program, "Fundamentals and Technology of Wafer Drying" has significant commercial potential for MacMillan Bloedel Limited. This is his second year in the Noranda/Bradfield Graduate Fellowship program.



Joanne MacDonald's research is aimed at refining greenhouse dormancy induction treatments for fall planting stock of Douglas-fir seedlings. This type of work is essential to development of cultural practices that will help ensure production of uniform, high quality stock year-to-year.

Noranda

In coastal British Columbia, at mid- to high elevations, where snow stays late into the spring, spring planting of seedlings results in high seedling mortality. Fall planting of these areas is an alternative. However, survival after fall planting must be increased. Current nursery practices were developed for production of seedlings which are physiologically ready for spring planting. Fall planting requires dormant and cold-hardy seedlings by October. To achieve this, new cultural regimes that result in earlier dormancy induction and cold-hardiness are needed. My research is aimed at refining greenhouse dormancy induction treatments for fall planting stock of coastal Douglas-fir seedlings. The approach combines developmental and physiological studies. The research is co-operative between the University of Victoria and MacMillan Bloedel Limited.

Two major considerations influencing my decision to return to graduate school were: obtaining adequate financial support and finding a research project in applied forest research. External financial support for a graduate student is important at a time when the federal government is cutting back grants in aid of research to university professors. The chance to do sound scientific research, and at the same time, solve a practical problem, is very important to me.

The Noranda/Bradfield Fellowship Program has given me personal financial support during the course work and research portions of my Ph.D. program, and the chance to work on an operational problem. Financial support of research was another consideration. Research

expenses are shared by my supervisor and MacMillan Bloedel. My supervisor provides funds for travel expenses, laboratory materials for preparation of samples for light and scanning electron microscopy, electron microscope time and technicians to help in sample preparation. Further, I am working in a well-equipped lab (microtomes, microscopes and growth chambers) funded by earlier equipment grants to my supervisor. MacMillan Bloedel provides greenhouse space, staff to grow seedlings, seedlings, and cold-hardiness testing.

Access to a number of knowledgeable people is another bonus of the program. My supervisor is a recognized conifer developmental anatomist. The connection with MacMillan Bloedel has provided interaction with a nursery grower, seedling physiologist and regeneration specialist. Further, the seedling physiologist functions as a member of my doctoral supervisory committee.

Dr. R. C. Bower, Research Coordinator, Land Use Planning Advisory Team at MacMillan Bloedel states: "MacMillan Bloedel considers (Ms. MacDonald's) type of work essential to development of cultural practices that will help ensure production of uniform, high quality stock year-to-year."

Frank Laytner is working on his Ph.D. studies in Chemical Engineering at the University of British Columbia. The structure shown in the photograph is the main section of a fluidized bed wafer dryer that is being developed as part of his research project on the fundamentals and technology of wafer drying (jointly supervised by Drs. Epstein, Grace and Pinder).

The Noranda Group companies have supported Mr. Laytner's work for the past two years, first under the Bradfield Graduate Fellowship program, and most recently as a Noranda/Bradfield Graduate Fellowship recipient. This assistance has enabled Mr. Laytner to pursue a project that is outside specific research areas of his supervisors and still draw upon their expertise in mass and heat transfer, drying, process control, and particulate and multiphase systems. It has also given him the means to undertake research that includes the lengthy process of the design, construction and start-up of a large experimental dryer.

Mr. Laytner would like to express his thanks to MacMillan Bloedel Limited for sponsoring his scholarship applications and in particular to Dr. Cottell and Dr. Knudson of MacMillan Bloedel Research for their continued support and assistance.

P. L. Cottell, Director, Building Materials and Wood Harvesting at MacMillan Bloedel states: "New technology for wafer drying, as being investigated in Mr. Laytner's research, has significant commercial potential for MacMillan Bloedel and the entire wafterboard industry."

Bradfield

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OLD IN WES

by Nathalie Guilbault

Noranda Exploration Company Limited hit the jackpot when it discovered an important gold deposit called the Silidor Project located in Rouyn County, a mere five kilometres west of Rouyn-Noranda on the properties of Ribago and Waite-Beauchastel.

Ribago and Waite-Beauchastel properties are exploited as a joint venture by Noranda Exploration Company Limited, Cambior Inc. and Nova-Cogesco Resources Inc. The initial agreement stated that Cogesco would finance a major part of the exploration program on Ribago property--\$2.5 million to assure an interest of 25%. Noranda and Cambior share 41% and 34% respectively.

During that time, Noranda spent approximately \$2.0 million on the southern part of the ore deposit located on the Waite-Beauchastel property held 100% by Noranda Minerals Inc. In June, 1987, an agreement was reached by all three companies to set their interests on the whole of the ore deposit: Noranda 55%, Cambior 25% and Cogesco 20%.

The Silidor deposit's structure is similar to the model of the old Powell mine located west of the actual deposit. The Powell mine was exploited from 1938 to 1956 where 2,827,000 tonnes were



Ore deposits are not easily found. Here is the surface expression of the deposit, although it is covered by overburden.

TERN QUEBEC

extracted averaging a grade of 4.1 grammes of gold per tonne. The deposit stretched for 1,000 metres along a strike extended to depths of 1,066 metres.

In the fall of 1985, following a study to determine the Powell mine granite's auriferous potential covering Ribago's southern part and west of the old Horne Mine's mining concessions, a first hole was placed right in a gold deposit's heart --6.4 metres of mineralized vein grading 12.6 grammes of gold per tonne--of what was to become later the Silidor deposit!

The Silidor Project's surface excavation work ended in July 1987. To date, the drilling indicates the probable geological reserves total 4.9 million tonnes averaging a grade of 6.0 grammes of gold per tonne (undiluted), or 0.176 ounces of gold per tonne, says Denis Francoeur, Manager of the Northwest Quebec Division of Noranda Exploration. (During the Quebec Prospectors Association's 1987 Annual Congress held in Rouyn-

Noranda, Denis Francoeur was honoured as "Prospector of the Year" for the Silidor discovery and Matagami's Isle-Dieu.)

The joint venture group reports that they will be proceeding with a \$22.5 million underground exploration program on the property. Noranda Inc. is to be operator of the program which includes sinking the underground exploration shaft to a depth of 420 metres, underground exploration on four levels and diamond drilling and bulk sampling.

J.S. Redpath Ltd. was chosen last June as the main contractor for the Silidor Project. The work started on June 25. At the end of July, the access road, site preparation and the shaft collar, to a depth of eight metres, were completed. The installation of necessary surface equipment is now underway.

Robert Michaud, Silidor Project Manager for Noranda Inc., stated the surface installation should be finished by

Christmas and the 15-month shaft sinking will begin in January.

March 1989 will bring to an end the second part of the Silidor Project. A feasibility study to determine the economic viability of the project will be concluded during the next two years, at which time a decision will be made about the development of the Silidor deposit.

Nathalie Guilbault is the Communications Co-ordinator for the Horne and Chabourne Divisions.



Preparing the shaft collar at the Silidor Project, near Rouyn-Noranda, Quebec.



The access to the Silidor Project is near the previously-producing Don Rouyn property. To date, drilling at the Silidor Project indicates the probable geological reserves total 4.9 million tonnes, averaging a grade of 6.0 grammes of gold per tonne (undiluted).

1987 CANADA AWARDS FOR BUSINESS EXCELLENCE

**NORANDA RESEARCH CENTRE
WINS SILVER AWARD.**

A new refining process that achieves gold of greater purity, and from much more complex feeds and in less time than conventional processes, was among the outstanding Canadian innovations recognized at the 1987 Canada Awards for Business Excellence.



The Noranda Research Centre of Pointe-Claire, Quebec was one of five finalists in the Innovation Category of this annual awards program, created by the Government of Canada in 1984 to recognize outstanding innovation, productivity and performance.

The Noranda Research Centre was presented the Silver Award during the ceremony held on September 22, 1987, at the World Trade Centre, Halifax, Nova Scotia.

"The Awards program recognizes the great achievements of Canadian innovators, inventors, researchers and businessmen," states Craig Tedmon, Senior Vice-President-Technology for Noranda Inc. "The recognition of Noranda is not only an honour to the individuals who worked on the gold refining project, both at the Noranda Research Centre and at CCR, but is also a credit to individuals within the Noranda Group who are constantly looking for ways to improve the way we work. The award is recognition of the high goals established at the Centre and CCR, along with the determination and dedication to their achievement."

The Noranda Research Centre conducts research and development for the Noranda Group of companies in the areas of metals and minerals, manufacturing, environmental control and new business development.

In this case, the Research Centre's efforts have improved the competitive position of one of the largest copper refineries in the world, Noranda Minerals' CCR Division. Located in Montreal East, the refinery also produces gold, silver, selenium, tellurium, palladium and platinum.

"This project was critical to CCR as it responded to an urgent need to replace an inadequate process with a flexible processing technology," said Dave Goldman, Vice-President--Noranda Copper Group. "The cooperation between the people working on this project at CCR and the Research Centre is the main reason for the project's success. It is also an example of how the cooperation between operations and the Research Centre can impact the bottom line."

According to Robert Stanley, Head of the Extractive Metallurgy Department at the Research Centre, Noranda's copper smelters and the refinery were looking for a cost-effective way to process a

Dr. Peter Tarasoff (right), Director of Research & Development, accepts the Silver Medal for the Noranda Research Centre from Robert R. de Cotret, Minister of Regional Industrial Expansion and Minister of State for Science and Technology.



wider variety of raw or feed materials, faster. "Increased versatility was necessary because the mines that originally supplied copper concentrates to the smelters had been, or were about to be, exhausted," explained Stanley. "Faced with that shortage, the company needed to be able to process a variety of complex materials containing gold and other precious metals."

But the refinery's gold processing technique, a century-old technology, was a barrier to such versatility. The traditional gold electrolytic refining process couldn't cope with even moderate amounts of palladium in the feed materials, severely limiting the raw materials the smelter and refinery could treat.

"Palladium was a real problem for us, because it would dissolve and start to build up in the electrolytic solution used to refine gold. Unless we kept treating the solution to remove the palladium, which was a costly and time-consuming endeavour, we couldn't make the gold pure enough," explained Stanley.

The technology developed at the Research Centre has successfully overcome the challenge presented by palladium, with a unique combination of chemical treatment steps engineered to consistently produce pure gold. "The result," says Stanley, "is gold of purity greater than 99.995%, and easier recovery of palladium and platinum from the gold-free solution."

This new process technology enables the smelters and refinery to treat a wide variety of complex materials, particularly precious metal sweeps, which are small particles obtained from incineration or grinding of electronic scrap containing relatively high levels of palladium.

"As a result of that capability," Stanley says, "Noranda is now highly competitive in the world-wide purchase of complex metal-bearing feedstocks, and can compete for the refining of some materials that were previously impossible for the operations to handle."

On September 22, the Silver Medal, in the Innovation Category of the Canada Awards for Business Excellence, was presented to the Noranda Research Centre. (From left) Bryn Harris, Serge Monette and Bob Stanley were directly involved with the gold refining process project for which Noranda received this honour.



Free



The free trade deal that has been negotiated between Canada and the United States will be very good for Noranda employees and shareholders.

About a quarter of Canada's national income and more than 2 million of our jobs depend on trade with the U.S. The Noranda Group is heavily dependent on this trade, which is under increasing threat from U.S. protectionism. Lumber, potash and copper strip are three recent examples of our products that have faced restrictions on entry to the U.S. market, and the list threatens to grow larger.

Under the terms of the agreement, barriers to trade in goods and services will be eliminated over a period ranging up to 10 years, and a more effective means of resolving trade disputes will be put in place. At the same time, our cultural industries will continue to

be protected and our social programs will not be affected.

By providing more secure access to the U.S. market, the free trade deal will improve the position of Noranda's existing operations and as well will make Canada an increasingly attractive place in which to invest and expand. Virtually every independent study has concluded that it will significantly improve the living standards and quality of life for Canadians in every region of the country.

Past efforts to negotiate free trade with the U.S. have faced strong opposition from the business community because it was afraid it couldn't compete, but now we have grown up. We have confidence in our ability to prosper and grow under free trade. The deal is supported strongly by both big and small business as well as the consumer movement.

Critics of the deal, while conceding that our living standards may improve, seem to base their opposition on the fear that we may lose our sovereignty and identity. This seems to represent a peculiar view of what it means to be a Canadian. Our identity is not so fragile and our values are not so shallow that they are somehow going to be destroyed by improved access to the U.S. markets.

Over the next few months, free trade will be the subject of fierce debate in this country. The deal is not perfect, but it represents a real improvement over what is now in place. Hopefully, the debate will be based on fact and informed opinion rather than partisan politics and ideology.

*Alfred Powis
Chairman and Chief Executive Officer
Noranda Inc.*



Trade

WHAT IT MEANS TO NORANDA

Noranda Inc. had sales of approximately \$6.2 billion in 1986.

This money is from selling the resources we harvest, mine or manufacture. In fact, Noranda Inc. is listed by *Fortune* magazine as number 214 in their annual top international 500 companies (ranked by sales and excluding U.S. companies). The company's customers are in 65 countries around the world. The Noranda Group is an example of how rich Canada is in resources and how important its world trading partners are.

1987 has been the year of free trade. Much has been heard both for and against the free trade agreement. Where does Noranda stand?

Noranda supports the free trade agreement that was signed on October 3, 1987.

In the terms of this agreement, the two countries, Canada and the United States, would have free trade by the turn of the century. And both countries benefit.

Although Noranda sells many different kinds of products to many countries around the world, Noranda's biggest customer for its goods is the United States.

In the recent past, protectionism has been evident in the two countries. (Protectionism is when one country uses or encourages restrictions on imports because of relatively inefficient domestic producers who cannot compete successfully with foreign producers.) This protectionism against some of the products Noranda sells, has been harmful to the company's financial health. Although Noranda Inc. is showing a profit, the long-term effect of countervailing duties already imposed by the United States have not yet fully been felt.

The free trade agreement will provide a

mechanism to resolve disputes arising from these protectionist measures now in effect.

The majority of businesses within Noranda are competitive with similar industries in other countries. And while there are businesses in the Noranda Group that will have to increase their competitive edge in the world marketplace, the company is able and ready to meet foreign competition.

Close to 80% of Canada's exports flow to the United States. About a quarter of the country's national income and over two million jobs are dependent upon this trade. External Affairs Canada has put out a booklet, called "Overview", which discusses some of the major points in the agreement:

"The Agreement will provide a regime which will ensure that 'Canadians and Americans alike can plan, invest, grow and compete more effectively with one another and in the global market.' The wide scope of the Agreement is indicated from the outset in the agreed objectives. The Agreement will:

- eliminate barriers to trade in goods and services between the two countries;
- facilitate conditions of fair competition within the free-trade area;
- significantly expand liberalization of conditions for cross-border investment;
- establish effective procedures for the joint administration of the Agreement and the resolution of disputes;
- and lay the foundation for further bilateral and multilateral co-operations to expand and enhance the benefits of the Agreement."

There have been many arguments against free trade, and one which is most hotly debated is the issue of sovereignty. Allan Gottleib, Canadian Ambassador to the United States, in a recent *Globe and Mail* article, stated: "...we should not

Free trade between Canada and the U.S. is not a new idea

Over 130 years ago, the first free trade agreement between pre-Confederation Canada and the United States was initiated. The agreement was done away with by the United States in 1866, because of the hostilities between the U.S. and Britain during the American Civil War.

During the last quarter of the 19th century, several attempts were made at renegotiating free trade--each effort failed. The two governments were never in the same frame of mind at the same time to approve the agreement.

In 1911, Sir Wilfrid Laurier and his Liberal government reopened the matter of free trade with the U.S. The agreement was approved by the U.S. Congress, but Canadians were leery of it. The Laurier government went to the people with the issue, and his government was defeated by the Conservatives. After the defeat of the Laurier government, trade barriers and protectionism were the rule of the day.

Although the potential free trade agreement had been snuffed out, trade between the two countries continued and grew. Then the Depression of the 1930's.

The U.S. Congress passed the Smoot-Hawley Act which put high duties on imports into the United States. Canada, along with other countries, feeling the same pressures of the Depression followed suit. By 1935, the swelling attitudes of protectionism had reached their peak, and Canada and the United States negotiated the Most-Favoured-Nation agreement. (This agreement was a commitment that a country will extend to another country the lowest tariff rates it applies to any third country.)

This historic accord of 1935 was an effort by the Liberals and Conservatives in Canada to expand the trading opportunities for Canadian entrepreneurs--

started by the Conservative government of R.B. Bennett, it was concluded by the Liberal government of Mackenzie King. The agreement meant a commitment by both countries for more liberal trading conditions which has lasted 50 years.

After the Second World War, Canada and the United States were two of 23 countries to participate in the General Agreement on Tariffs and Trade (GATT). Signed in Geneva during October, 1947, GATT was the foundation for the largest expansion of world trade in history. It now has 95 member countries, with an additional 30 other countries applying GATT rules to their trading practices. The 95 countries subscribing to GATT account for more than four-fifths of world trade.

Canada and the U.S. have gradually been lowering the trade barriers between their countries. And while additional attempts at more comprehensive free trade agreements between these two great trading partners have been made, GATT has had to suffice for the overview. But, agreements have been reached between the two countries on specific industries. For example, the Defence Production Sharing Arrangements, based on the 1941 Hyde Park Agreements, ensured virtual free trade in defence material and equipment. In 1965, the Auto Pact, providing for duty-free trade in cars, trucks and parts was completed.

But perhaps at no time in its 130 year history has the issue of free trade been more hotly debated than now. Prime Minister Brian Mulroney and President Ronald Reagan held a bilateral summit March 17-18, 1985, in Quebec City and began a co-operative effort to negotiate a new trade agreement. On October 3, 1987, a historic bilateral trade agreement was signed by both countries.

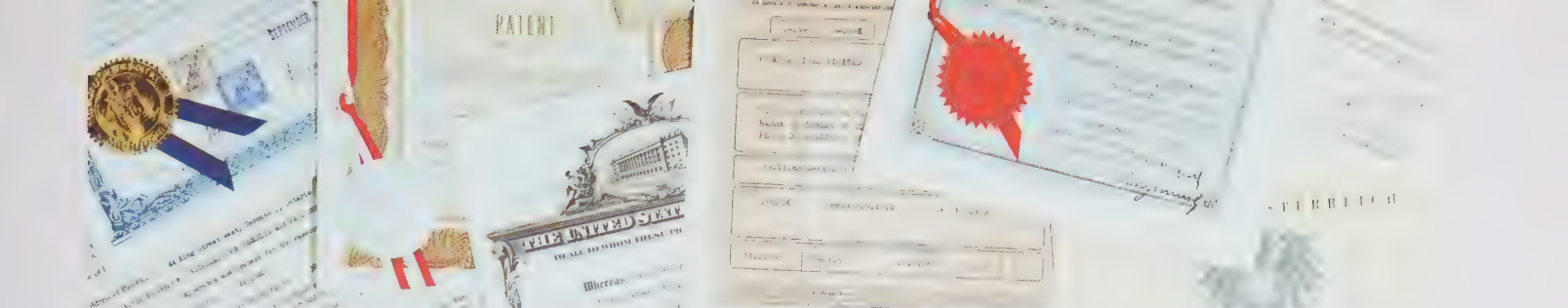
think of ourselves as the mouse and the elephant, or as the modest middle power next to the giant... Canadians are emerging as a more confident, even as an exuberant nation that sees more opportunities in the world than threats, more avenues than fences, more challenges in extending our presence in the land of others than closing our own land to the presence of others."

Restricting trade between Canada and the United States would seriously limit production, employment and future growth for Canadian businesses. For Noranda, the free trade agreement means securing existing markets for our products. It's also in the best interest of the United States; for example, it's good for the American farmers who pay more for their fertilizer when extremely high duties are placed on Canadian potash.

Protecting Canadian cultural industries (film and video, music and sound recording, publishing, cable transmission and broadcasting) is one of the chief concerns, and one which has been answered by the agreement. Canada has retained its right to promote and protect its cultural industries now and in the future.

The governments of both countries have agreed to establish a Bilateral Commission to settle disputes as they arise. "The dispute resolution provisions of the agreement are important innovations," states Alfred Powis (Chairman and Chief Executive Officer of Noranda Inc. and Chairman of the Task Force on the International Economy and Trade for the Business Council on National Issues). "A panel with representation from Canada and the United States will ensure that each country will apply its trade remedy laws fairly and impartially... Some critics are suggesting that what has been accomplished in the area of dispute resolution is of little consequence. They are wrong. By international standards, these components of the agreement represent very significant progress in the application of the rule of law to a large and complex two-way relationship."

The Canada-United States Free Trade Agreement is the foundation for a sound, rational and predictable trading relationship between Canada and the United States. It is an important agreement for Noranda Inc. as an employer, as a producer and as an important supplier of raw materials to the United States.



PATENTS RECEIVED DURING THE SECOND QUARTER OF 1987

During the second quarter of 1987, the following patents were received by the Noranda Patent Department:

-- Japanese Patent No. 1,367,888 for "Apparatus for Measuring the Sedimentation Characteristics of Particulate Solids in Liquid"

Inventor: **Frank Rosenblum**, Scientist, Department of Mineral Processing, Noranda Research Centre
Patent Assigned to Noranda Inc.

-- Norwegian Patent No. 155,151 for "Low Alloy White Cast Iron"

Inventors: **J.C. Farge**, Head, Department of Physical Metallurgy, Noranda Research Centre, and **Robert Fortin**, Foreman, Quality Control, Norcast Inc., Mont-Joli
Patent Assigned to Norcast Inc.

-- U.S. Patent No. 4,675,992 for "Method and Apparatus for Forming a Smooth Tube from a Flat Tape"

Inventors: **Edward R. Byzio**, Supervisor, Product Engineering Department, Canada Wire and Cable Limited, Communication Product Division, and **Peter Stewart-Hay**, Manager, Corporate Manufacturing Engineering Development, Canada Wire and Cable Limited
Patent Assigned to Canada Wire and Cable Limited.

-- Australian Patent No. 555,874 for "Process and Apparatus for Continuous Converting of Copper and Non-Ferrous Mattes"

Inventors: **Phillip J. Mackey**, Project Manager, Metallurgy, Noranda Research Centre, and **J. Barry W. Bailey**, General Superintendent, Long Term Project, Noranda Minerals Inc., Horne Division
Patent Assigned to Noranda Inc.

-- Australian Patent No. 556,111 for "Wet Zinc Dust Automization and Distribution"

Inventors: **Nassef E. Ghatas**, Manager, Project Assessment and Business Development, Noranda Research Centre, and **John G. Peacey**, Chief Research Metallurgist, Noranda Research Centre
Patent Assigned to Noranda Inc.

-- U.S. Patent No. 4,647,720 for "Method and Apparatus for Manufacturing Cables having Composite Shield and Armour Sheath Designs"

Inventor: **David E. Vokey**, Former Manager, Design and Development, Canada Wire and Cable Limited, Communication Products
Patent Assigned to Canada Wire and Cable Limited

-- U.S. Patent No. 4,667,462 for "Plastic Filled Wire Rope"

Inventor: **Laurence C. Smyth**, Senior Group Engineer, Department of Physical Metallurgy, Noranda Research Centre
Patent Assigned to Wire Rope Industries Ltd.

-- Canadian Patent No. 1,222,868 for "Process and Apparatus for Changing the Pallets of a Sinter Machine"

Inventor: **Alois Leonfellner**, Plant Superintendent, Brunswick Mining and Smelting Corporation Limited, Smelting and Fertilizer Division
Patent Assigned to Brunswick Mining and Smelting Corporation Limited.

-- Canadian Patent No. 1,222,201 for "Gas Absorption System"

Inventors: **J.A. Healey**, General Superintendent, Steam & Recovery, Edmundston Mill; **Robert C. Duncan**, Process Engineer, Edmundston Mill; and **Charles F. Roussel**, Senior Mechanical Engineer, Edmundston Mill
Patent Assigned to Fraser Inc.

-- Canadian Patent No. 1,222,112 for "Process and Apparatus for Direct

Extrusion of Thermal Barrier Profiles"

Inventor: **Laurence C. Smyth**, Senior Group Engineer, Noranda Research Centre

Patent Assigned to Noranda Inc.
-- Canadian Patent No. 1,222,367 for "Method of Producing Di-Ammonium Phosphate Fertilizer"

Inventors: **Loftus A. Benjamin**, Coordinator of E.M.O., Noranda, Brunswick Mining and Smelting Corporation Limited, Smelting and Fertilizer Division; **Donald T. Aikens**, Engineering Superintendent, Brunswick Mining and Smelting Corporation Limited, Smelting and Fertilizer Division; **Thomas B. Gravestock**, Fertilizer Plant Superintendent, Brunswick Mining and Smelting Corporation Limited, Smelting and Fertilizer Division; **Herman Soehodho**, Brunswick Mining and Smelting Corporation Limited, Smelting and Fertilizer Division
Patent Assigned to Brunswick Mining and Smelting Corporation Limited.

-- U.S. Patent No. 4,643,365 for "Apparatus for Adding Grinding Media to a Grinding Mill"

Inventor: **A. Meredith McKim**, Former Technical Manager, Orebed Inc.
Patent Assigned to Norcast Inc.

-- U.S. Patent No. 4,670,052 for "Process for the Recovery of Gold from Precious Metal Bearing Sludge Concentrate"

Inventors: **Robert W. Stanley**, Head, Department of Extractive Metallurgy, Noranda Research Centre; **G. Bryn Harris**, Senior Group Scientist, Department of Extractive Metallurgy, Noranda Research Centre; **Serge Monette**, Principal Technical Specialist, Department of Extractive Metallurgy, Noranda Research Centre
Patent Assigned to Noranda Inc.

Noranda Group Scholarship

Over four hundred sons and daughters of Noranda employees applied for the Noranda Group Scholarships for the 1987/1988 academic year. The \$1500 scholarships were awarded to 78 of the applicants (6 applicants received half scholarships).

The Noranda Group Scholarship program is designed to encourage children of employees to attend a college or university for the purpose of pursuing a course of study to completion of a diploma or degree. The scholarships are renewable for one or more years to a maximum of four years. In exceptional cases, the Regional Committee may present an award for a fifth academic year.

Congratulations to the 78 people who were awarded with the Noranda Group Scholarships and best of luck in your future studies.



Carol Cable Company, Inc., Pawtucket, Rhode Island, have presented their annual scholarship awards. At the presentation were (from left): Walter and Kerrin Sloan, Milton and Valerie Zalk, Phillip Lerner, Director, Industrial Relations, Carol Cable Company, Inc., Fred and Cheryl Silva, and Sam Perelman, President, Carol Cable Company, Inc. Elected to a membership in Phi Beta Kappa, Valerie Zalk, daughter of Milton Zalk, Credit Adjustment Manager for Carol Cable Company, Inc., will be a senior at Clark University, majoring in Economics. A resident of Rehoboth, Massachusetts, Cheryl Silva will be a sophomore at Bowdoin College, majoring in Mathematics and Political Science. Cheryl is the daughter of Alfred Silva, Production Supervisor at Carol Cable's Warren, Rhode Island plant. Kerrin Sloan, daughter of Walter Sloan, Vice President of Automotive Sales for Carol Cable Company, Inc., will enter Western New England College as a senior, majoring in Management. Kerrin is also on the National Dean's List.

ATLANTIC REGION

RECIPIENT	UNIVERSITY	FIELD OF STUDY & YEAR OF GRADUATION	COMPANY & LOCATION WHERE PARENT EMPL'D
Allen Doreas*	Univ. of Montreal Montreal, Que.	Psychology 1988	Fraser Inc. Edmundston, NB
Timothy Gilliss*	Univ. of NB Fredericton, NB	Chemical Eng. 1987 (Dec.)	Heath Steele Newcastle, NB
Bryan Hadley	Univ. of Moncton Moncton, NB	General Admin. 1987	BM&S-Smelt/Fert. Belledune, NB
Kimberly Jamieson	Mount Allison Univ. Sackville, NB	Computer Science 1991	BM&S - Mining Bathurst, NB
Denis Jean	Univ. of Moncton Moncton, NB	Mathematics (Phys.) 1991	BM&S-Smelt/Fert. Belledune, NB
T. Cory Neumann	Queen's Univ. Kingston, Ont.	Geological Eng. 1991	BM&S - Mining Bathurst, NB
Marc Pelletier*	Mount Allison Univ. Sackville, NB	Biochemistry 1990	Fraser Inc. Madawaska, ME
Anne Plourde	Queen's Univ. Kingston, Ont.	Pre-Med. 1991	Fraser Inc. Edmundston, NB
France Ringuette	Univ. St-Louis Maillet Edmundston, NB	Business Admin. 1991	Fraser Inc. Madawaska, ME
Sophie Robichaud*	Univ. of Moncton Moncton, NB	Biochemistry 1990	BM&S-Smelt/Fert. Belledune, NB
John Rutledge*	Univ. of NB Fredericton, NB	Chemical Eng. 1989	BM&S - Mining Bathurst, NB

*Renewals

ONTARIO REGION

RECIPIENT	UNIVERSITY	FIELD OF STUDY & YEAR OF GRADUATION	COMPANY & LOCATION WHERE PARENT EMPL'D
Mikael Areff	McGill Univ. Montreal, Que.	B. Sc. Honours Neurophysiology 1991	CWC Don Mills, Ont.
Jay Barbour	Queen's Univ. Kingston, Ont.	Engineering Physics 1990	Noranda Inc. Toronto, Ont.
Annette Burke*	Univ. of Waterloo Waterloo, Ont.	Chemical Eng. 1990	CWC Simcoe, Ont.
Christopher Davies*	Queen's Univ. Kingston, Ont.	Mechanical Eng. 1989	Noranda Sales Toronto, Ont.
Brian DeLeenheer	Univ. of Waterloo Waterloo, Ont.	Mechanical Eng. 1992	Noranda Inc. Toronto, Ont.
Richard Downey	Conestoga College Kitchener, Ont.	Bus.Admin.-Marketing 1989	MacMillan Bloedel Kitchener, Ont.
Christopher Ferguson	Univ. of Toronto Toronto, Ont.	Bach. of Commerce 1990	NMI Toronto, Ont.
Terence Forth	Univ. of Waterloo Waterloo, Ont.	Mechanical Eng. 1991	CWC Don Mills, Ont.
Yves Gagnon*	Univ. of Western Ont. London, Ont.	Electrical Eng. 1990	Geco Division Manitouwadge, Ont.
Robert Jez*	York Univ. Toronto, Ont.	Co-ord.Bus.&Corp.Law 1990	Norcast - Wabi New Liskeard, Ont.
Mark Naklicki*	Carleton Univ. Ottawa, Ont.	Honours Chemistry 1988	Geco Division Manitouwadge, Ont.

*Renewals

Awards 1987-1988



After having been included in *Who's Who Among American High School Students*, *The Society of Distinguished High School Students*, and named an Academic All American, Lisa Koen will attend the University of Missouri at Columbia, majoring in Broadcast Journalism with her Noranda Group Scholarship. Lisa is the daughter of Winona Koen, Metal Scheduler at Noranda Aluminum, New Madrid, MO. Lisa is presented her cheque by Ralph Ebersole, Vice-President--Operations, Noranda Aluminum.



With an eye to a future in accounting, Glenn Valant has, for the third consecutive year, been granted a \$1,500 scholarship. Glenn, the son of Stanley Valant, who retired from the Horne Division last June, studies business administration with an option in accounting at Canadore College in North Bay. From left: Peter Fowler, Vice-President--Operations, Horne Division, Glenn Valant, and Mrs. and Mr. Stanley Valant.



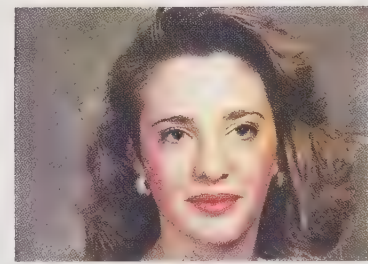
Starting a bachelor's degree in administration at the Université du Québec à Montréal, is Mario Rivard whose father, Laurent Rivard, is the Air Separation Unit Operator, Oxygen Plant, at the Horne Division. Mr. & Mrs. Laurent Rivard accept the \$1,500 scholarship cheque on behalf of their son.



Peter Tarassoff, Director of the Noranda Research Centre, presents his son, Andrew with his third Noranda Group scholarship cheque. Andrew attends McGill University and is studying architecture.



Enrolled in the Computer Engineering program at the University of Alberta is Robert Moll. Robert's father, Wes Moll works for Northwood Pulp & Timber as a Saw Filer at the Houston sawmill.



Attending the University of British Columbia for a B.A.-English is Valia Spiliotopoulos. Valia's father, Spyridon Spiliotopoulos is a Shift Electrician with Noranda Metal Industries, Annacis Island, British Columbia.

Jocelyn Perry*	Laurentian Univ. Sudbury, Ont.	Honours Bach. Comm. 1989	Geco Division Manitouwadge, Ont.
Roma Robillard*	Lakehead Univ. Thunder Bay, Ont.	Commerce & Bus. Admin. 1989	MacMillan Bloedel Thunder Bay, Ont.
Sheryl Strother	Queen's Univ. Kingston, Ont.	Bach. of Commerce 1991	Noranda Forest Inc. Toronto, Ont.

QUEBEC REGION

RECIPIENT	UNIVERSITY	FIELD OF STUDY & YEAR OF GRADUATION	COMPANY & LOCATION WHERE PARENT EMPL'D
Dawn Alexander	McGill Univ. Montreal, Que.	Medicine 1992	Mines Gaspé Div. Murdochville, Que.
Michel Aspirot*	Univ. of Laval Ste. Foy, Que.	Civil Eng. 1989	Mines Gaspé Div. Murdochville, Que.
Paul Béchard*	École Polytechnique Montreal, Que.	Mechanical Eng. 1989	Nutrite Brossard, Que.
Denis Blanchet*	École Polytechnique Montreal, Que.	Mechanical Eng. 1988	Matagami Division Matagami, Que.
Gilles Bouchard*	Univ. of Ottawa Ottawa, Ont.	Mechanical Eng. 1988	James MacLaren Masson, Que.
Sarah Bouchard	McGill Univ. Montreal, Que.	Medicine 1992	CWC Quebec City, Que.
Patricia Coulombe	Univ. of Sherbrooke Sherbrooke, Que.	Civil Eng. 1991	Matagami Division Matagami, Que.

*Renewals

Robert Neal Davis*	Univ. of Waterloo Waterloo, Ont.	Mathematics 1990	Noranda Research Pte-Claire, Que.
Richard Giroux	École Polytechnique Montreal, Que.	Electrical Eng. 1988	NMI Montreal East, Que.
Pierre Lecavalier*	Univ. of Sherbrooke Sherbrooke, Que.	Electrical Eng. 1988	CEZ Valleyfield, Que.
Marie-Josée Lemieux	Univ. of Laval Ste. Foy, Que.	Industrial Relations 1988	CCR Division Montreal East, Que.
Christine McDermid*	CEGEP de L'Outaouais Hull, Que.	Administration 1990	James MacLaren Masson, Que.
Mario Rivard	Univ. Que./Mtl. Montreal, Que.	Administration 1989	Horne Division Noranda, Que.
Andrew Tarassoff*	McGill Univ. Montreal, Que.	Architecture 1988	Noranda Research Pte-Claire, Que.
Glenn Myles Valant*	Canadore College North Bay, Ont.	Administration 1988	Horne Division Noranda, Que.

WESTERN REGION

RECIPIENT	UNIVERSITY	FIELD OF STUDY & YEAR OF GRADUATION	COMPANY & LOCATION WHERE PARENT EMPL'D
Robert Ballam*	Simon Fraser Burnaby, BC	Electrical Eng. 1990	MacMillan Bloedel Port McNeill, BC
C. Scott Bishop	UBC Vancouver, BC	Engineering 1992	MacMillan Bloedel Campbell River, BC

*Renewals

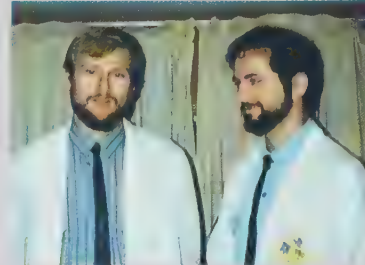
Noranda Group Scholarship



Susan Eastwood is attending the University of Manitoba working toward a B.A. in Science-Mechanical Engineering. From left: Hugh Holm, Plant Manager, Canada Wire and Cable, Winnipeg, Susan with Dr. Keith Eastwood, Manager, Product Development, Canstar, Winnipeg.



Len Dawes, centre, received his scholarship from Gordon Woodfield, Nanaimo Service Centre Manager, Wire Rope Industries. Len is attending Simon Fraser University in the Business Administration Program. Carole Dawes, Len's mother, works in the office of Wire Rope Industries in Nanaimo, British Columbia.



From left: Christopher and Johannes Giede attend the University of British Columbia and are both in their fourth year of medicine. Christopher and Johannes father, Kurt Giede, is Manager, Engineering & Development, Wood Products for Northwood Pulp & Timber, Prince George, B.C.



University of British Columbia student Sherrie Theessen is studying Biochemistry (genetic research) and intends to carry on and obtain her Ph.D. Bill Theessen, Sherrie's father, is Employee Relations Coordinator at Northwood Pulp & Timber, Prince George, British Columbia.



Neil Davis receives his Noranda Group scholarship cheque from Peter Tarassoff, Director of the Noranda Research Centre. Neal, who has held this scholarship for two consecutive years, is a student in mathematics, majoring in computer sciences, at the University of Waterloo. Neil's father, John H. Davis, is head of the Physical Chemistry Department at the Noranda Research Centre. From left: John Davis, Neal Davis and Peter Tarassoff.

WESTERN REGION (cont.)

Allan Burgmann*	UBC Vancouver, BC	B.Sc. - Biology 1988	Island Paper New Westminster, BC	Mark MacLaughlin*	Univ. of Victoria Victoria, BC	B.Sc. - Chemistry 1989	MacMillan Bloedel Port Alberni, BC
Glen Cairns*	Univ. of Victoria Victoria, BC	Electrical Eng. 1989	Island Paper New Westminster, BC	Robert Moll*	Univ. of Alberta Edmonton, Alt.	B.Sc. - Comp. Eng. 1988	Northwood P.&T. Prince George, BC
Joseph Chan	Simon Fraser Burnaby, BC	B.Sc. 1991	MacMillan Bloedel New Westminster BC	Lawrence Reeves*	Univ. of Victoria Victoria, B.C.	B.Sc.-Math/Comp.Sc. 1988	MacMillan Bloedel Vancouver, BC
Roberto Ciarniello	UBC Vancouver, BC	Mechanical Eng. 1992	MacMillan Bloedel Powell River, BC	Richard Ribeyre*	UBC Vancouver, B.C.	B.Sc. Medicine 1989	MacMillan Bloedel Port Alberni, BC
Lynda Cooper*	McGill Univ. Montreal, Que.	B. Comm. 1989	MacMillan Bloedel Vancouver, BC	Heather Skanderberg	Univ. of Regina Regina, Sask.	B. Education 1991	MacMillan Bloedel Hudson Bay, Sask.
Lenny Dawes*	Simon Fraser Burnaby, BC	B.A.-Econ/Bus.Admin. 1988	Wire Rope Ind. Nanaimo, BC	Darrel Soroka*	Univ. of Saskatchewan Saskatoon, Sask.	B.A. - General 1988	CCP Colonsay, Sask.
Tracey de Groot*	UBC Vancouver, BC	Rehab. Medicine 1990	MacMillan Bloedel Powell River, BC	Valia Spiliotopoulos	Simon Fraser Burnaby, BC	B.A. - English 1992	NMI Annacis Island, BC
Susan Eastwood	Univ. of Manitoba Winnipeg, Man.	Mechanical Eng. 1988	CWC Winnipeg, Man.	Sherrie Theessen*	UBC Vancouver, BC	B.Sc. - Biochemistry 1988	Northwood P.&T. Prince George, BC
Christopher Giede*	UBC Vancouver, BC	Medicine 1988	Northwood P.&T. Prince George, BC	Elisabeth Wipfli*	Simon Fraser Burnaby, BC	B.A.-Econ./Bus.Admin. 1987 Dec.	Northwood P.&T. Prince George, BC
Johannes Giede*	UBC Vancouver, BC	Medicine 1988	Northwood P.&T. Prince George, BC				

*Renewals

*Renewals

Awards 1987-1988



Sheryl Strother is attending Queen's University, Kingston, Ontario, for her first year in Commerce & Business Administration. Sheryl's father, R. B. Strother is Director of Human Resources for Noranda Forest Inc.



Richard Giroux holds his \$1,500 Noranda Group scholarship cheque. Richard is studying electrical engineering at Ecole Polytechnique, Montreal. From left: Mrs. Therese Giroux, Noranda Metal Industries Limited (Montreal East), Richard Giroux and Henri Mikhael, General Manager.



Marie-Josée Lemieux, daughter of Raymond Lemieux, Foreman at the Tankhouse, Noranda Minerals Inc., CCR Division, is studying Industrial Relations at Université Laval. From left: Raymond Lemieux, Marie-Josée and Dave Goldman, Vice-President-Operations, Noranda Minerals Inc., CCR Division.



Mark Toivanen, Vice President-Operations, Canadian Electrolytic Zinc Limited, presents a Noranda Group Scholarship cheque to Pierre Lecavalier. Pierre is studying electrical engineering at the University of Sherbrooke. Pierre is the son of Richmond Lecavalier. From left: Dave Rodier, Pierre Lecavalier and Mark Toivanen.



Elisabeth Wipfli attends Simon Fraser University and this is her fifth year and final semester studying for her B.B.A.-Joint Honours-Economics & Business Administration. Her father, Karl Wipfli is employed as a Pipefitter - Pulpmill, Northwood Pulp and Timber, Prince George, British Columbia.

U.S.A. REGION

RECIPIENT	UNIVERSITY	FIELD OF STUDY & YEAR OF GRADUATION	COMPANY & LOCATION WHERE PARENT EMPL'D				
Kimberly Bartlett*	Vanderbilt Univ. Nashville, TN	Govern/Political Sc. 1990	MacMillan Bloedel Pine Hill, AL	Gordon McAlary*	Northeastern Univ. Boston, MA	Mechanical Eng. 1988	Fraser Inc. Madawaska, ME
Patricia Daigle*	Univ. of Maine Orono, ME	Chemical Eng. 1989	Fraser Paper Ltd. Madawaska, ME	Lori Moore	Vanderbilt Univ. Nashville, TN	Engineering 1990	Norandal USA Huntingdon, TN
Peter Dufour*	Univ. of Maine Orono, ME	Electrical Eng. 1990	Fraser Paper Ltd. Madawaska, ME	Robert T. Short III	Auburn Univ. Auburn, AL	Pre-Med/Psychology 1990	MacMillan Bloedel Pine Hill, AL
Michelle Fretter	Notre Dame Univ. Notre Dame, IN	Mechanical Eng. 1990	Norandex Inc. Cleveland, OH	Cheryl Silva*	Bowdoin College Brunswick, ME	Math/Political Sc. 1990	Carol Cable Warren, RI
Leigh Jeffrey*	Birmingham Southern Birmingham, AL	Chemistry 1989	MacMillan Bloedel Pine Hill, AL	Kerrin Sloan	Western New England Springfield, MA	Management 1988	Carol Cable Pawtucket, RI
Thomas Joiner	Auburn Univ. Auburn, AL	Electrical Eng. 1990	MacMillan Bloedel Pine Hill, AL	Kimberly Switzer*	Univ. of Alabama University, AL	Chemical Eng. 1988	MacMillan Bloedel Pine Hill, AL
Joseph Keller*	Rutgers State Univ. Piscataway, NJ	Ceramic Eng. 1990	Fraser Paper Ltd. Madawaska, ME	Douglas Thompson*	Wake Forrest Univ. Winston-Salem, NC	Chemical Eng. 1989	MacMillan Bloedel Atlanta, GA
Lisa Koen	U of Missouri-Columbia Columbia, MO	Broadcast Journalism 1990	Noranda Aluminum New Madrid, MO	Alan Warner*	GMI Eng. & Mgmt. Inst. Grand Rapids, MI	Electrical Eng. 1989	Noranda Bldg. Prod. Grand Rapids, MI
				Valerie Zalk*	Clark Univ. Worcester, MA	Business Admin. 1988	Carol Cable Pawtucket, RI

*Renewals

*Renewals

"Several companies, including Noranda, have successful employee gift-matching programs for education (Noranda matches about \$26,000 each year). We felt that if it works for education, why not for culture and the arts?" said Peter Riggin, Senior Vice President, Noranda Inc. and President of The Noranda Foundation.

In this spirit, effective January 1, 1988, the Noranda Group Culture/Arts Contributory Gift Program will begin. The purpose of the program: to encourage employees throughout the Group to give financial support to the culture/arts organizations of their choice. "We believe this program is unique," said Riggin. "No other company to our knowledge has a program such as this; to join with employees in supporting culture/arts organizations."

In essence, Noranda will make a contributory gift of \$0.50 for each \$1.00 that an employee donates to a culture/arts organization.

There are some conditions in the guidelines, however, which must be met in regard to the amount of the employees donation and the organization before a contributory gift is made.

- 1) For the employee donation:
 - a) Each single donation must be over \$50.00.
 - b) Contributory gifts will be based on donations which do not exceed in total \$2,500.
- 2) The recipient organization must:
 - a) be an organization whose mission is



NORANDA GROUP

CULTURE/ARTS

CONTRIBUTORY

GIFT PROGRAM

to enhance the culture of the community through the performing or visual arts or like activities;

- b) be an organization which is eligible for financial support from governmental agencies which have been established to provide aid to culture/arts organizations;
- c) be a non-profit organization which has a ruling from the appropriate taxing authority to the effect that contributions to it are deductible for tax purposes;
- d) be based in Canada or the United States of America, or in a country in which the Noranda Group carries out activities, and which the Noranda Foundation declares, from time to time, to be eligible for participation in the program.

This program is available to any person who is an employee with three or more years continuous service in the Noranda Group both at the time the gift is given, and on the date Noranda makes its contributory gift.

"Noranda's support for culture/arts organizations is nothing new. We have provided direct financial support for years. This new program, however, is an excellent opportunity for an employee to supplement that support for an organization which he or she favours," commented Riggin.

More details about the Program can be read in the "Noranda Group Culture/Arts Contributory Gift Program" brochure available at your personnel office.



People in Events

NORANDA FOREST SALES INC. HAS

been selected by the Federal Government to receive the 1987 Canada Export Award. The award was presented by Pat Carney, Minister for International Trade, at the annual meeting of the Canadian Exporter's Association, October 5, 1987.

This prestigious award recognizes the outstanding achievements of the Eastern Export Lumber Division in penetrating new markets such as Japan, Korea, Taiwan and Cuba, as well as expanding their traditional markets. In 1986, total eastern export sales increased more than 200 per cent over 1985. This represented a sales volume of almost 50 MMFBM. In 1987, they expect eastern export sales will continue to increase to approximately 60 MMFBM.

The Canada Export Award is more than a reflection of the continuing achievements of one particular division within the Company. Most importantly, it recognizes the commitment, pride and success of everyone within Noranda Forest Sales Inc. to be a market leader, both at home and abroad.

Congratulations!



Noranda Forest Sales President, Arkadi Bykhovskiy (left) and John Rolland, General Manager, Eastern Export Lumber Sales, receive the 1987 Canada Export Award from The Honorable Pat Carney, Minister for International Trade. The award, presented in Ottawa at the annual meeting of the Canadian Exporters' Association, recognizes NFSI's achievements in penetrating new export markets as well as expanding its traditional markets overseas.



People in Events

G OVERNOR OF MISSOURI JOHN

Ashcroft recently visited Noranda Aluminum Inc.'s primary aluminum reduction plant in New Madrid, Missouri. This visit was made during his September "Buy Missouri" tour of the state's manufacturing facilities.

Ralph Ebersole, Vice President—Operations at the New Madrid plant, escorted Governor Ashcroft and other state and county officials through the plant answering questions and explaining the aluminum making process.

The Governor's "Buy Missouri" campaign is designed to encourage Missouri consumers and manufacturers to purchase products, goods and services produced in Missouri.

At the conclusion of the tour, Ebersole accepted a certificate on behalf of the employees signed by Governor Ashcroft saluting the company's management and workforce for their commitment to producing goods and services of the highest quality, and for the valuable investment the company and employees are making to the economic well-being of the State of Missouri. The certificate also noted that the Governor is encouraging Missourians to buy the quality aluminum products produced at Noranda by its excellent labour force. The Governor expressed his personal gratification in seeing the genuine pride the management and workforce of Noranda have in the product they produce and the company for which they work.

Noranda's facility at New Madrid employs over 1200 and has an annual rated production capacity of 225,000 tons of aluminum.

Missouri Governor John Ashcroft (centre) presented Ralph Ebersole (far right), Vice President—Operations for Noranda Aluminum Inc.'s New Madrid plant, a certificate saluting all employees for their high quality products and services. Also at the presentation was Gene Copeland (far left), Missouri State Representative.



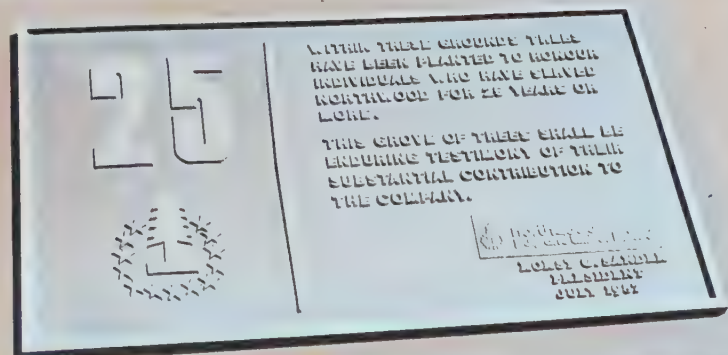
NORTHWOOD PULP AND TIMBER

Limited, Prince George, British Columbia, is recognizing the efforts of their 25-year employees in a unique, but fitting, way.

Young pine trees have been planted on the grounds of the corporate office in recognition of all 25-year employees. As other employees reach this milestone, more trees will be added to the grove.

On July 29, 1987, Horst Sander, President, Northwood Pulp and Timber Limited, unveiled a plaque at the entrance to the office, formally recognizing this undertaking for their Quarter Century employees.

The plaque, honouring 25-year employees, was unveiled July 29, 1987, at the entrance to the corporate office in Prince George, B.C., by: (from left) Doug Little, Senior Vice-President, Forest Operations and Horst Sander, President, Northwood Pulp and Timber Limited, Prince George, B.C.



People in Events

A SPECIAL AWARDS EVENING WAS HELD

recently in Chatham, New Brunswick, for Heath Steele Mines Limited employees who had reached long-time safety achievements.

The 25-year-accident-free service awards were presented to Sterling Harris, Blair Waye, Albert Durelle and Alastair Sobey.

Awards for 20 years of accident-free service were presented to Jean Ingersoll and Val Keating, with 15-year awards to Mel Scott and Joe Deveaux. Among others present at the occasion were Vernon Waye and Clayton Foran, both of whom are members of the joint safety commission at the mine.

Long-time safety achievement awards were presented to several Heath Steele Mines Limited employees recently in Chatham, New Brunswick. From left: Alan Young, Vice President, Corporate Relations, Brunswick Mining and Smelting Corporation Limited; Sterling Harris, Heath Steele; John Moerman, Senior Vice President, Brunswick Mining and Smelting Corporation Limited; Don Archibald, Project Superintendent, Heath Steele; Blair Waye and Albert Durelle, Heath Steele.



THE HORNE DIVISION'S SMELTER

Laboratory celebrated its 30th anniversary of continued work without a compensable accident last year.

The laboratory first started in 1926 when the Smelter was built. Over 50,000 analyses of concentrate, scrap samples and other substances, such as matte and slag, are performed annually.

The laboratory performs over 200,000 metal analysis per year, mostly on copper and neighbouring metals such as lead, zinc, silica, sulphur and palladium.

The laboratory handles chemical products that are corrosive and toxic. Most of the work is done over heating plates and in ovens which increases the chance of accidents. Michel Bédard, the Laboratory's Manager, and his 22 employees deserve to be proud of their two million hours without any compensable accidents. In their honour, a party was organized last May and included words of encouragement from Alex Balogh, President-Noranda Copper, Gabriel Desjardins,

Member of Parliament and Peter Fowler, Vice-President --Operations.

In 1981, following the laboratory's 25th anniversary, its extraordinary achievement was registered in the *Guinness World Book of Records*. This year, the laboratory will ask that this new feat also be published. Congratulations to everyone who participated in achieving an exemplary record.

The Guinness World Book of Records has a special entry to be updated--the Horne Division Smelter Laboratory's 30th anniversary without a compensable accident. Seen here are the safety minded employees (from left to right): (First row) Michel Bédard, Sylvain Pichette, Mary Baker, Lise Cormier and Rémy Pépin; (Second row) Luc Lemieux, Joanne Michaud, Pierre Giasson and Gonnée Joosten; (Third row) Réal Caron, Denys Pinard, Bill Dunstan, Perry Chomicki and Jean-Claude Lauzon; (Fourth row) Richard Kallio, Gerry Lescom, Lois McKee, Marc Mastromatteo, Pauline Fortin, Claude Gaudet and Jean-Marc Lessard; (Fifth row) Elmars Caune, Hector Pelchat, Denis Nolin and Marc Dubuc.



People in Events

NORTHWOOD'S PULPMILL PRODUCED its 5,000,000th tonne of bleached kraft pulp shortly after midnight on July 29, 1987!

Bill Matson, Vice-President Pulp, extended congratulations on behalf of Northwood, to all present and past employees in reaching this milestone. As Bill said, "it took a lot of effort and determination by all employees, no matter where they made their contribution."

Approximately one hundred employees gathered later in the day for a cake cutting ceremony.

On August 12, two employees selected by draw, Terry Brand and Jack Connaghan, travelled to Vancouver with their wives to "deliver" the five millionth tonne to Island Paper Mills (50% owned by Fraser Inc.), a customer of Northwood Pulp and Timber Limited. After a tour of the paper mill and lunch, the group stayed over in Vancouver to attend a B.C. Lions football game and later a live theatre presentation of "Cats".

- The pulp is being made into fine offset commemorative paper by Island Paper Mills, and a folder of sheets for personal correspondence will be distributed to all employees.

The 5,000,000th tonne was made in slightly over 21 years since startup of the mill in 1966. With the expansion, it is expected to take only ten years to reach the 10,000,000th tonne!



Jack Connaghan (second from left) and Terry Brand (extreme right) along with their wives, were on hand at Island Paper Mills when the 5,000,000th tonne arrived. They were accompanied by representatives of Island Paper, Northwood and B.C. Rail to cut the ribbon. The pulp will be made into commemorative writing paper for all pulpmill employees.

MINNOVA INC. RECENTLY RECOGNIZED five employees for their suggestions on the company's new corporate name (the company was formerly called Corporation Falconbridge Copper). Ian Bayer, President and Chief Executive Officer, invited all employees to enter a "Name the Company" contest. "We received 78 suggestions from 27 employees," said Bayer. "Every division and exploration office were represented in these suggestions."

Initially, three Maple Leaf Gold Coins were to be awarded for the three best suggestions. In the final analysis, five gold coins were awarded. Not only were the suggestions for the new company name very creative, but several people submitted suggestions for the new corporate logo.



Five Minnova Inc. employees were presented with Maple Leaf Gold Coins for their suggestions on the new company name. Seen here (from left) are Harold Gibson and Dawn Miller, both from the Vancouver office, who joint ventured a company name suggestion. Ian Pirie, from the Vancouver

office, was also recognized for his suggestion. David Watkins, Vice-President-Exploration (third from left) was on hand for the gold coin presentation. Also awarded with gold coins were Gerald Riverin, of the Noranda office, and Paid Severin, from Terrace Bay.

People in Events

THE "PRESIDENT'S AWARD FOR

Safety", established in 1985 by Noranda Inc., is given to the Company or Division which has the lowest serious injury frequency in each of the Manufacturing, Mining & Smelting and Forestry divisions.

The presentation of the 1986 award was made in April to the Smelting and Fertilizer Division of Brunswick Mining and Smelting Corporation Limited.

In order to be considered for this award, the total number of lost time accidents and medical aid injuries is counted to give a serious injury frequency per million hours worked and this frequency is then compared to the frequency for industry as a whole across Canada. The award is given to the Company or Division which has the lowest frequency, provided that it is less than 50% of the frequency for industry as a whole. The Smelting and Fertilizer Division's serious injury frequency was 33.5 compared to an all industry frequency of 75.

Winning or receiving a trophy is not, in itself, the major achievement. What is important is the commitment to safe working, which each employee at the Smelting and Fertilizer Division shows every day in his or her work. The real achievement is that people can and do work safely and without serious injury.

The President's Award for safety at work is a prestigious award to win. For the year 1986, the Smelting and Fertilizer Division of Brunswick Mining and Smelting Corporation Limited, was the winner of this award and is very proud of it. Presentation of the award

was made (from left) by Keith Hendrick, President of Noranda Minerals Inc., to Mike Street, General Manager, Smelting and Fertilizer Division, and John White, President of Brunswick Mining and Smelting Corporation Limited.



THE HORNE DIVISION, IN COLLABO-

ration with Employment and Immigration Canada and College de l'Abitibi-Temiscamingue, made it possible for five students to participate in a program for specialized labour in scarce trades. The students were able to obtain a College Attestation and reach the level of industrial maintenance mechanics.

This program was initiated in February, 1982. The course consisted of 2,000 hours of theory and 2,000 hours of practical terms to complete a two-year course. The five industrial mechanic apprentices received their College Attestation last June during a graduation ceremony held at the College.

The courage and persistence of the five industrial maintenance mechanics and of all those involved, combined with Horne Division Training Instructor Gaston Vezina's expertise, successfully completed the training program's second part. Congratulations to all for a job well done!

Five employees at the Horne Division recently completed their College Attestation, and became industrial maintenance mechanics. Seen here are: (first row, left to right) Serge Comtois and Pierre Gauthier; (second row, left to right) Gaston Vezina (instructor), Michel Simard, Rejean Lefebvre, Daniel Sigouin and Guy L. Jacques (Training Supervisor).

People in Events

THE SWALLOWS HAVE RETURNED. AND

judging by the number of nests, especially those built on the underside of the ore conveyor leading from No. 3 shaft to the silo and the No. 6 crusher, they must love it around the minesite at Brunswick Mining and Smelting Corporation Limited, Bathurst, New Brunswick.

This year IS a record of sorts! There are literally thousands of nests on the underside of the conveyor. Actually, there are so many that painting of the conveyor housing was scheduled to work around the nesting birds. Paint Shop Foreman, Tom Doucet, explained that, "although we are not postponing the job, we're doing the supporting

have built their mud nests in the ruins of San Juan Capistrano in California since colonial times, do not leave on the same day each autumn (Oct. 23, St. John's Day) nor do they return on the same day each spring (March 19, St. Joseph's Day). Food supply and weather greatly influence their migration.

Though hardly songsters, their twittering and chirping notes are pleasant, and this, plus their familiar habits in returning each year, at almost the same time each spring, have given them a friendly place in people's minds and in literature.

This popularity is expressed in a song written many years ago: "When The Swallows Come Back To Capistrano".



columns and other areas of the system before we start on the underside of the conveyor housing. By that time the birds will have completed their nesting period."

Swallows are among the best known birds. They are accomplished fliers, and with much graceful twisting and turning, capture their insect food on the wing. Over the centuries they have been celebrated in both literature and song as a symbol of diligence and hopefulness.

Contrary to popular legends, the cliff swallows that

Painting the conveyor housing has been planned to work around the thousands of swallow nests until the birds have completed their nesting period. Although this is not Capistrano, the swallows are welcome at Brunswick.

Although the Brunswick minesite is not Capistrano, they are happy to have the birds, and there's no doubt about it, they are welcome to nest there each spring.

--Courtesy Brunswick Bulletin



Recently, four Noranda Group companies participated in the first Annual Fun Golf Tournament held in Thunder Bay. Seen here are the Lowest Score Winners (from left): Lenny Lachapelle, Geco; Larry Cardinal, Mattabi; George Doucet, Noranda Exploration; Cecilia Barrett, Noranda Exploration; Les Brown, Hemlo; and Al Scott, Mattabi.

WIRE ROPE INDUSTRIES LTD.

recently completed negotiations for the purchase of an interest in Kenscott Limited, a mechanical power transmission distribution company.

Kenscott operates out of eight branch offices servicing a customer base predominantly across Southern Ontario and Southwestern Quebec.

The company employs over 100 people who combine their many years of experience in the distribution field with product specialists in such fields as bearings, power transmission products, packing, sealing, lubricants and Electro-Mechanical drive applications.

To all employees at Kenscott, welcome to the Noranda Group.

EMPLOYEES FROM GECO, HEMLO,

Noranda Exploration (Thunder Bay) and Mattabi participated in the first Annual Fun Golf Tournament the weekend of August 29. The conditions in Thunder Bay for golfing that day were excellent and everyone seemed to enjoy themselves to the tee. Each property was a winner and the tournament trophy this year was won by Geco.

A dinner/dance was held Saturday evening at the Centennial Golf Club. It was a nice way for old and new acquaintances from the different properties involved to socialize.

People in Events

S PONSOR — AN ORGANIZATION

that lends its support. Numerous divisions of the Noranda Group of companies support many worthwhile activities. Barwood Hardwood Floors Ltd., a division of Maniwaki Forest Products Inc., Toronto, Ontario, being one of them.

Barwood made the decision, in February, 1987, to sponsor one of Canada's top female cyclists, 26-year-old Marilyn Wells of Toronto.

Wells entered her sixth year of world-class competition in 1987. In 1986 she took overall victory in the Canada Cup series.

To date, she finished as the top Canadian in six out of eight races at the Tour of Texas. At the end of May, Wells represented Canada in three international road races held in Tokyo, Kyoto, and Osaka, Japan, placing 10th, 4th, and 1st respectively. Since the Japan victory, Wells has gone on to win the World Selection trials in Quebec and British Columbia, thus being named to the National Women's Cycling team to compete in cycling's superbowl, the Tour de France, in July. Wells finished 54th overall out of 110 cyclists.

Wells rides for the International Christian Cycling Club, Wheels of Thunder. This club was founded at the 1986 World Cycling Championships in Colorado Springs, Colorado, U.S.A., with Wells being one of the founding members. It is community oriented, but has world-wide exposure with offices in Canada, the U.S.A., and Austria.

What comes after the Tour de France? Wells' next focus will be on earning a spot on the 1988 Summer Olympic Team. She has her work cut out for her in the coming months, but Barwood Hardwood Floors Ltd. is behind Wells in spirit and support, in her quest for a berth on the Olympic Team.

Marilyn Wells is ranked among the top seven riders in her class in Canada and placed first at a world-class competition in Osaka, Japan. She has been a member of the national team for six years, Ontario champion four times and Canadian champion twice. Wells is now striving for a berth on the 1988 Summer Olympic Cycling Team and Barwood Hardwood Floors Limited is proud to be Marilyn Wells' sponsor.



NORTHWOOD PULP & TIMBER'S FIRST

aid team achieved international recognition with a tremendous showing at the International First Aid competitions held in England during October (see October-November Panorama).

The team, comprised of pulpmill employees Linda Lee, Mary Hogan and Ellen Hogan, together with Chris Hale and coach Ivan Morie, captured second place overall. First place was taken by a British police team.

The team came in first among the visiting international teams in both first aid and diagnostics, as well as being named best visiting international team overall. They attained the highest standing among visiting teams in the history of the competition.

Linda Lee won personal top honours when she was named the best competitor overall in diagnostics. She also placed second in the stretcher competition.

Linda, Mary, Ellen, Chris and Ivan represented British Columbia admirably at the competitions and have been truly fine ambassadors on behalf of everyone at Northwood. Congratulations!

Dear Reader:

Have you ever wanted to ask the top executives something, but weren't quite sure how to go about it? Here's your chance!

For the Employee Annual Report (April/May edition), Alf Powis and David Kerr will respond to your questions, whether they're about the company's future, what the company's stance is on certain issues-whatever's on your mind. They will try to answer as many questions as they can, space permitting.

If you have questions you'd like to ask, please submit them to Panorama, P.O. Box 45, Commerce Court West, Toronto, Ontario M5L 1B6, no later than February 5, 1988.

S. K. Lewis, Editor

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